Panel Discussion: Researchers' Use of NAEP Data

Quarterly Meeting of the National Assessment Governing Board

August 2016—Chicago, Illinois

The National Assessment of Educational Progress (NAEP) represents the gold standard in large-scale assessment, pioneering new approaches in measuring, analyzing, and reporting student achievement for the nation. The National Assessment Governing Board sets the policies and assessment schedule for NAEP, and the National Center for Education Statistics (NCES) administers NAEP.

Researchers have been essential in examining NAEP results to reveal implications for national, state, and local policy. Generally, policymakers, educators, business leaders, administrators, parents, and members of the public do not invest the time, effort, and resources necessary to delve into the trends, patterns, and relationships in detailed NAEP data. Researchers are trained and funded to make this investment.

At the August 2016 meeting of the National Assessment Governing Board in Chicago, prominent researchers discussed how they work with large scale data, including NAEP data, and how their work could be improved and facilitated by additional policies and partnerships. The session featured four panelists:

Thomas Cook is a Senior Fellow at Mathematica Policy Research. He held the Joan and Sarepta Harrison Chair of Ethics and Justice at Northwestern University, as well as appointments in sociology, psychology, education, and social policy. He is a Fellow at the Institute for Policy Research.

Susan Dynarski is a professor of public policy, education, and economics at the University of Michigan, where she holds appointments at the Gerald R. Ford School of Public Policy, School of Education, Department of Economics, and Institute for Social Research, and serves as co-director of the Education Policy Initiative.

Charles Payne is the Frank P. Hixon Distinguished Service Professor in the School of Social Service Administration at the University of Chicago, and an affiliate of the Urban Education Institute.

Sean Reardon is the endowed Professor of Poverty and Inequality in Education, and Professor (by courtesy) of Sociology at Stanford University, as well as the Director of the Stanford Interdisciplinary Doctoral Training Program in Quantitative Education Policy Analysis.

Andrew Ho—professor of education at Harvard University, Governing Board member, and the Chair of the Board's Committee on Standards, Design, and Methodology—invited the panelists to share their work with the Board. He moderated a lively discussion about the potential and the challenges of analyzing NAEP data.

The researchers recommended:

(1) pursuing ways to link NAEP data with other administrative datasets,

(2) facilitating use of statistical methods to conduct not only descriptive but also causal research with NAEP data, and

(3) discovering how patterns and variations in NAEP scores can highlight best practices and policies.

panelists urged the Governing Board to enable linkages from NAEP data to state-level or national-level (e.g., National Student Clearinghouse) administrative data. These linkages could support powerful research about the long-term effects of educational policies. The acting Commissioner of NCES, Peggy Carr, noted that there are legal and bureaucratic hurdles that have prevented linkages; however, there is a new commission (the Ryan Commission) whose charge is to address such legal issues. Ken Wagner, Board member and Commissioner of the Rhode Island Department of Education, noted that his team has linked datasets successfully and securely, maintaining participant confidentiality.

all panelists agreed that NAEP data, on their own, describe trends in student achievement, but have not supported conclusions about the reasons for these trends. Panelists noted that the data could tie trends to policies enacted by state legislators and school district administrators through advances in statistical methods of causal inference currently in use by top researchers. They recommended that the Governing Board enable researchers to use NAEP data to discover factors that can improve schools and student learning.

Charles Payne echoed some of the thoughtful, high-impact work that fellow panelist Sean Reardon has published, mapping and comparing performances of states and districts at similar levels of poverty. Payne urged the Governing Board and NCES to focus on state and urban district outliers, to showcase the variation in the scores, and to highlight both ends of the score distribution to help guide others to best practices. Those districts and states that emerge as recurring outliers help to answer one set of critical questions; those that bounce in and out as outliers from the mean address another set of critical questions. Just showing those data can lead administrators and the media to determine what is occurring in stellar districts and states that could be replicated elsewhere.

All the panelists concurred that a series of workshops, to train early career researchers to access and analyze NAEP data, would reap rewards in the participants' continued work as well as ripple effects among those researchers' future graduate students. A research grant program to support that work would deliver these benefits and possibly enable larger projects and sources of funding downstream. Susan Dynarski cautioned that a grants program and workshop series should be expected to draw low numbers in early years. The Governing Board and NCES should evaluate the program only after it has had a chance to be established.

Other recommendations from the panelists:

- **Susan Dynarski** encouraged the Governing Board and NCES to learn from the Internal Revenue Service (IRS), which provides access to secure, private data. By contrast, the Census Bureau gives researchers access to data through data research centers that exact high cost in time and travel expense. She indicated that the former option is the preferable, more convenient, more equitable approach to granting data access to researchers.

- **Tom Cook** proposed a committee to explore how to conduct studies that employ causal inference using NAEP data, which the Governing Board is considering.

- **Sean Reardon** and **Susan Dynarski** applauded NAEP for reminding others about subjects beyond reading and mathematics.

- Board members reminded the panelists that NAEP includes contextual variables from students, teachers, and school administrators. The panelists agreed that there was a lack of awareness and use of these variables among the research community. They agreed that more research should be done with contextual variables.

- The panelists criticized media coverage of NAEP reports for emphasizing trends compared only to the most recent time point. NAEP trends from their earliest comparable time points offer much more power to differentiate real change. Because of emphasis on the current year compared to the most immediate prior administration, the headlines always focus on the lack of change, which undersells NAEP's utility. The Board should support analyses of historical NAEP data to address long-term questions about why scores change over time. Interesting changes in the data rarely bubble to the surface in 2-year increments, but do arise in comparisons over 10-year periods.